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666.762.11:666.762.8

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Al₂O₃ – SiC – C

Al₂O₃ – SiC – C, 5 . % 2 – 5 %, (15 . %) – 15 – 30 %, (20 – 35 . %) – 2 – 20 %. 2,96 / ³, 60 .

In work the results of research of green density and durability strength's dependence from quantity of graphite and silicon carbide in initial composition of tapping hole mixes on the basis of composition Al₂O₃ – SiC – C that contain alumochromephosphate binder have been presented. Increase of graphite quantity on 5 wt. % results in reduction of green density on 2 – 5 %, and durability strength for materials with the low contents of graphite (up to 15 wt. %) – on 15 – 30 %, with the high contents of graphite (20 – 35 wt. %) – on 2 – 20 %. It has been reached the maximum value of green density 2,96 g/cm³, durability strength 60 MPa.

Al₂O₃ – Si – : , – , – [1 – 2]. [3].

Al₂O₃ – Si – Si , Al₂O₃ – Si – (0,2 – 0,4) (5 – 20) 7 : 3, (50) 15 . % (0 – 15 . %) (20 – 35 . %). 5 . % (100 %).

1450 ° , -

(. 1), -

(. 2).

(. 1) , , -

(15 . %), -

SiC 5 . %, 2,73 – 2,96 / ³.

,

(5 . %) -

.

10 . % « » ,

(2,63 – 2,73 / ³).

(20 – 35 . %) -

SiC 15 . % 2,67 2,36 / ³. -

5 . %

2 – 5 %.

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$$_1 = 2,92 \cdot Z_1 + 2,86 \cdot Z_2 + 2,73 \cdot Z_3 + 0,225 \cdot Z_1 Z_2 + 0,045 \cdot Z_1 Z_3 + 0,2025 \cdot Z_2 Z_3 + 0,135 \cdot Z_1 Z_2 (Z_1 - Z_2) - 0,09 \cdot Z_1 Z_3 (Z_1 - Z_3) - 0,0225 \cdot Z_2 Z_3 (Z_2 - Z_3) - 0,5175 \cdot Z_1 Z_2 Z_3$$

•

$$_2 = 2,67 \cdot Z_1 + 2,51 \cdot Z_2 + 2,5 \cdot Z_3 + 0,0225 \cdot Z_1 Z_2 - 0,1125 \cdot Z_1 Z_3 + 0,0225 \cdot Z_2 Z_3 - 0,2925 \cdot Z_1 Z_2 (Z_1 - Z_2) + 0,1575 \cdot Z_1 Z_3 (Z_1 - Z_3) - 0,1575 \cdot Z_2 Z_3 (Z_2 - Z_3) + 0,7425 \cdot Z_1 Z_2 Z_3$$

Z_1 – , (65 – 100 . %); Z_2 – Si ,

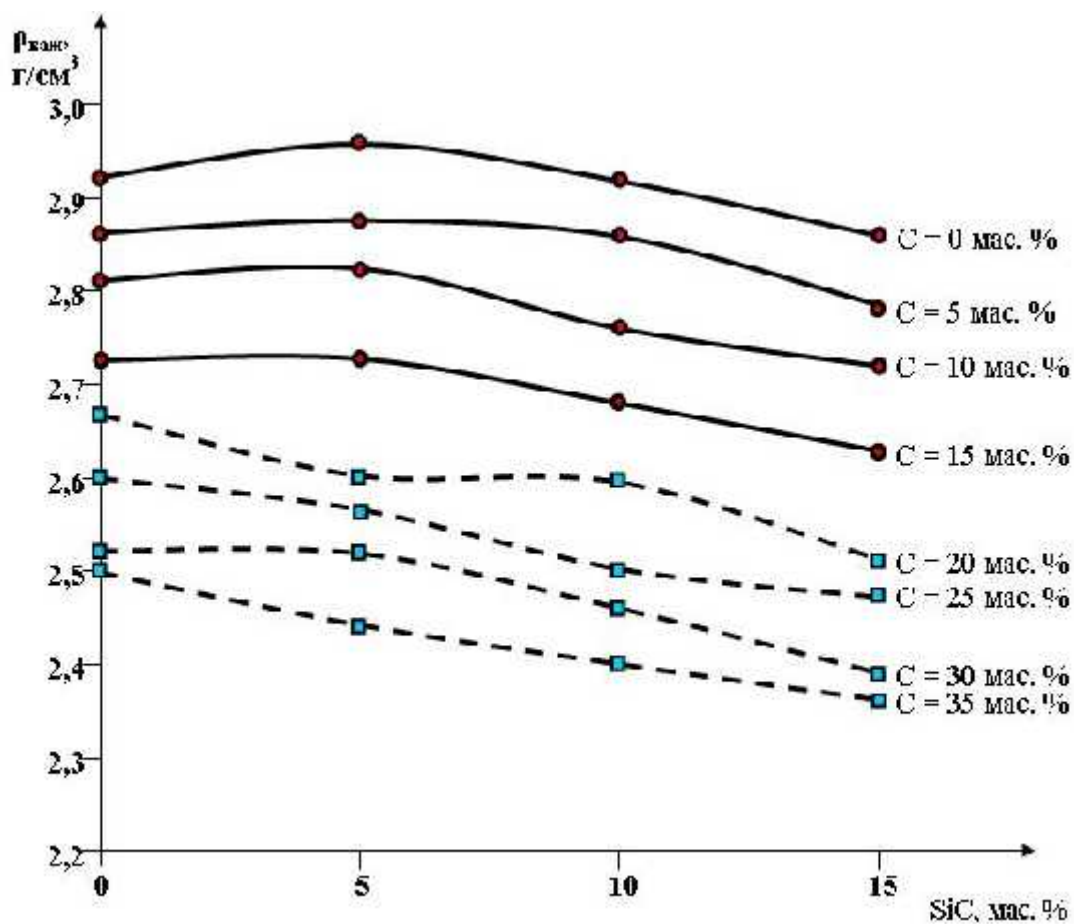
(0 – 15 . %); Z_3 – , (0–35 . %).

Al₂O₃ – Si –

	Al ₂ O ₃	Al ₂ O ₃	SiC		, %
1	49	21	15	15	22,43
2	59,5	25,5	0	15	20,60
3	59,5	25,5	15	0	20,55
4	52,5	22,5	10	15	18,70
5	56	24	5	15	20,12

6	52,5	22,5	15	10	23,05
7	56	24	15	5	25,21
8	59,5	25,5	5	10	23,63
9	59,5	25,5	10	5	25,67
10	56	24	10	10	25,86
11	35	15	15	35	26,51
12	45,5	19,5	0	35	22,10
13	45,5	19,5	15	20	26,00
14	38,5	16,5	10	35	23,51
15	42	18	5	35	24,73
16	38,5	16,5	15	30	22,82
17	42	18	15	25	23,37
18	45,5	19,5	5	30	19,29
19	45,5	19,5	10	25	20,34
20	42	18	10	30	21,32
21	63	27	0	10	17,07
22	66,5	28,5	0	5	20,02
23	63	27	5	5	22,79
24	70	30	0	0	22,18
25	66,5	28,5	5	0	20,28
26	63	27	10	0	20,88
27	49	21	0	30	19,26
28	52,5	22,5	0	25	21,80
29	49	21	5	25	22,01
30	56	24	0	20	22,34
31	52,5	22,5	5	20	22,24
32	49	21	10	20	22,81

5 10 . % (. 2).
 (15 . %)
 14 – 60 ,
 (20 – 35 . %) 7–15 .
 5 . %
 – 15 – 30 % ,
 2 – 20 % . 20 – 35 . %
 (–
 2 – 6).

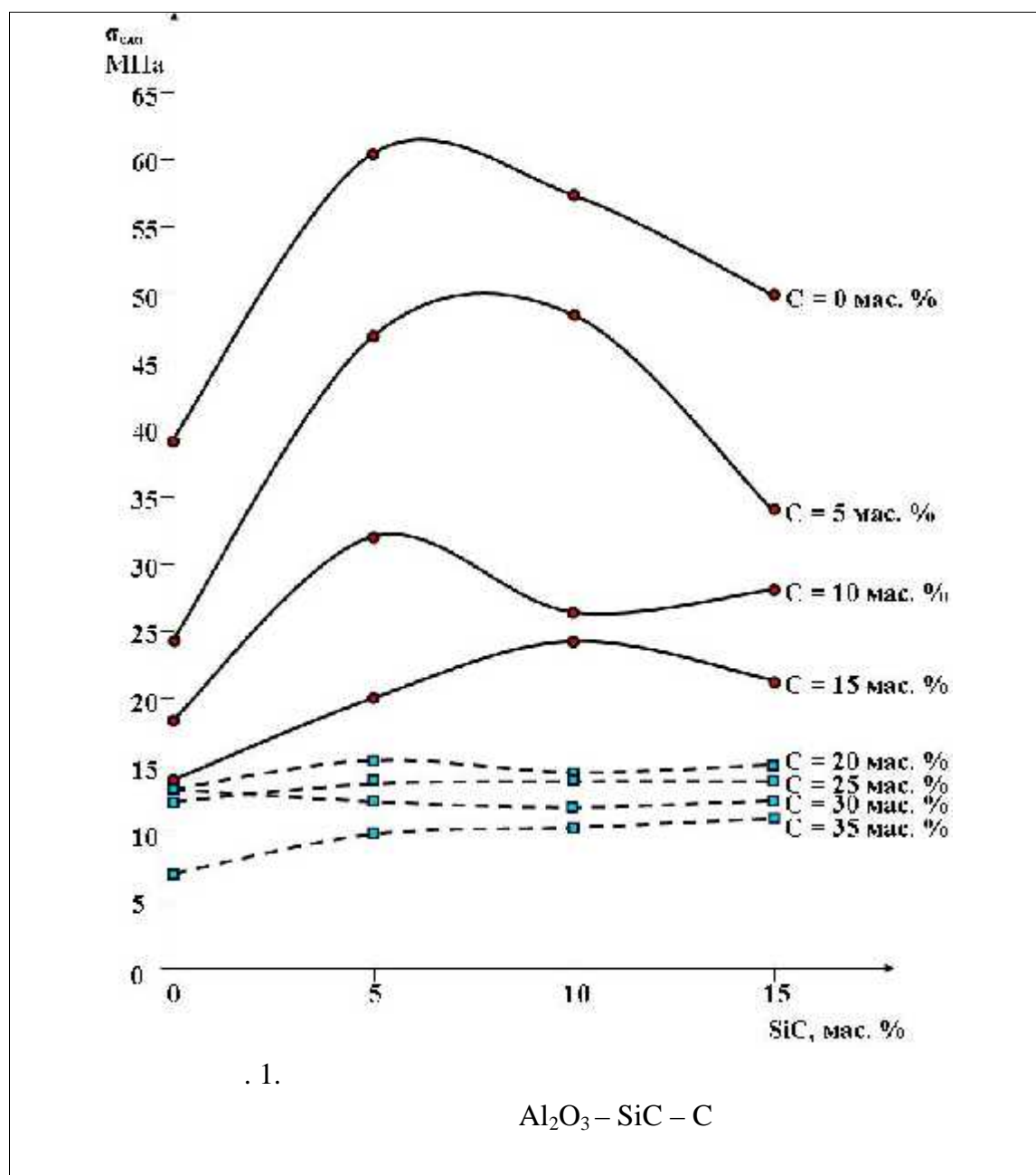


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$\text{Al}_2\text{O}_3 - \text{SiC} - \text{C}$

$\text{Al}_2\text{O}_3 - \text{SiC} - \text{C}$

5 – 10 . % 15 . %.



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